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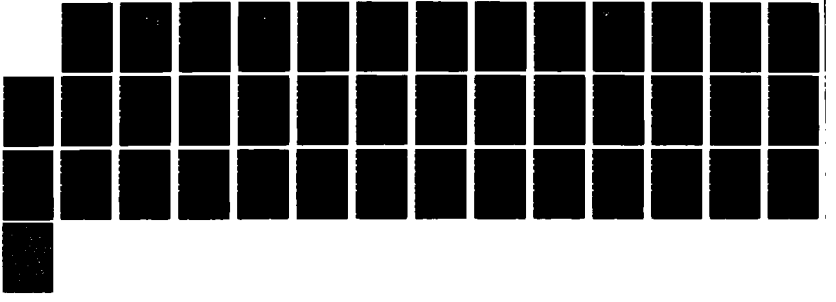

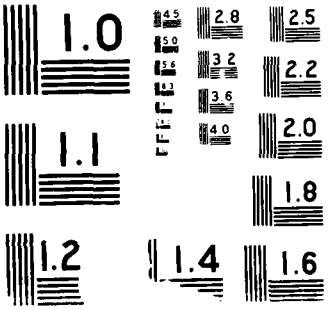
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AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

RESOURCE DENIAL AGAINST SOVIETS

MAJOR FRED S. PETER, JR. 88-2105

"insights into tomorrow"

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AUTHOR(S) MAJOR FRED S. PETER, JR., USAFR

FACULTY ADVISOR MAJOR MICHAEL H. SCHMIDT, ACSC/3822 STUS

SPONSOR MAJOR WILLIAM J. DRAKE, HQ USAF/LEEX

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Resource denial is an important part of war fighting. It involves retaliating against an enemy by destroying resources left behind prior to withdrawing from an air base. In a crisis, denial effort should be sharply focused and structured; otherwise, resources left behind will help the enemy.

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PREFACE

Resource denial is an important part of war fighting. It involves retaliating against an enemy as part of strategic withdrawal and denys him the benefit of resources left behind. Denial effort should be sharply focused and structured. Otherwise, in a crisis, resources left behind will help the enemy.

I would like to acknowledge the help I received from the Engineering and Services community that made this project possible. First, Captain Jeff Parker at the Air Force Engineering and Services Center and Captain Ken Polasek at the Air Force Institute of Technology were invaluable in providing data and points of contact. Second, Major Pat Coullahan in USAFE provided a theater perspective that hopefully will make the project useful. Finally, for suggestions and assistance in editing drafts, I would like to thank Major Bill Drake at Air Staff and Major Mike Schmidt, my Faculty Advisor.

ABOUT THE AUTHOR

Major Fred S. Peter Jr. was commissioned through the AFROTC program at Pennsylvania State University in 1972 where he received his B.S. in Geological Sciences. In 1975 he received his Masters of Business Administration from the University of Wyoming. Major Peter has served as a communications/electronics officer in USAFE and CONUS and has experience in missile operations. In civilian life, he works for the University of New Mexico Engineering Research Institute and is a member of the Readiness Technical Analysis Group under contract with the Plans Division, Directorate of Engineering and Services, Headquarters USAF. Major Peter is a graduate of Squadron Officers School in residence and Air Command and Staff College by seminar.

TABLE OF CONTENTS

Preface....iii
About the Author....iv
List of Illustrations....v
Executive Summary....vi

CHAPTER ONE--INTRODUCTION....1

CHAPTER TWO--HISTORICAL SIGNIFICANCE....3

CHAPTER THREE--CURRENT PROGRAM....5
- Plans, Regulations and Other Guidance....5
- Training Programs....6
- No Doctrine or Policy....7

CHAPTER FOUR--IDENTIFYING DENIAL TARGETS....9
- Methodology....9
- Soviet Military Doctrine....9
- Erroneous Target?....10
- Weapon System Design....11
- Soviet Maintenance Philosophy....11
- Vulnerability....12
- Denial Targets....13
- Consumables....13

CHAPTER FIVE--SUGGESTED ORGANIZATIONAL FRAMEWORK....16
- SALTY DEMO....16
- Shortcomings....17
- A Better Way....17
- Other Implications....18

CHAPTER SIX--SUMMARY, CONCLUSIONS, & RECOMMENDATIONS....19
- Summary....19
- Conclusions....20
- Recommendations....20

BIBLIOGRAPHY....22

APPENDICES....26
- Appendix 1--Base Denial Guideline #1 General....27
- Appendix 2--Base Denial Guideline #2 CE Italy/FRG....29

LIST OF ILLUSTRATIONS

TABLE

TABLE 1--AFIT Recommended Denial Priorities (flying base).....6

EXECUTIVE SUMMARY

Part of our College mission is distribution of the students' problem solving products to DOD sponsors and other interested agencies to enhance insight into contemporary, defense related issues. While the College has accepted this product as meeting academic requirements for graduation, the views and opinions expressed or implied are solely those of the author and should not be construed as carrying official sanction.

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REPORT NUMBER 88-2105

AUTHOR(S) MAJOR FRED S. PETER, JR., USAFR

TITLE RESOURCE DENIAL AGAINST SOVIETS

I. Purpose: (1) To establish the historical significance of resource denial for the Soviets. (2) Describe and assess our current guidance and training programs for resource denial. (3) Discuss Soviet doctrine and concepts of operation to identify some specific high value denial targets. (4) Suggest an organizational framework to approach the resource denial issue in a crisis situation with limited time and manpower.

II. Problem: If forced to withdraw from a NATO base, what is an effective approach for the Air Force to organize, plan, and execute resource denial against Soviet forces?

III. Data: Resource denial played an important role in World War II for the Soviets. They understand the value of strategic withdrawal and retaliation using resource denial. There are plans, regulations, and training programs in the Civil Engineering community dealing with resource denial, but most are sketchy, incomplete, lack policy guidance, and do not apply to the rest of the Air Force. Because of certain economic and

logistic weaknesses inherent in the Soviet system, they count on "self supply" to make up the difference. Poor maintenance concepts and lack of tools, POL, and food offer lucrative denial targets. However, our current denial planning and execution process is too fragmented to effectively to take advantage of them.

IV. Conclusions: It is not clear that NATO bases will be able to implement an effective resource denial process against the Soviets, if required. Aside from some support involvement in the issue, interest and activity are minimal. Most functional areas do not have expertise to identify, prioritize, and destroy resources that effectively exploit enemy weakness. In a crisis situation with limited time and manpower, most critical resources probably will be captured and exploited by the enemy.

V. Recommendations: (1) Develop doctrine, policy, and better guidance to cover denial planning and execution. (2) Adopt an organizational, rather than functional approach to planning and executing resource denial at the base or wing level. All base agencies need to be involved and under the direction of a single commander. (3) Train more personnel to deny resources during a time and manpower constrained crisis.

Chapter One

INTRODUCTION

Self supply and its counterpart, resource denial, are part of a comprehensive war fighting strategy. As Sun Tzu noted in The Art of War around 500 BC, "Bring war material with you from home, but forage on the enemy. A wise general makes a point of foraging on the enemy. One cartload of the enemy's provisions is equivalent to twenty of one's own."(7:8)

The Air Force has approached the resource denial problem from an offensive point of view. Concern with essential resources for our sortie generation process has translated into resource destruction priorities in the event a base is overrun. In other words, we have assumed what is important for our war waging capability is also important for an enemy. This can be ineffective and dangerous. If our denial effort is not sharply focused and structured, it will have little impact, and resources left behind will help the enemy. To prevent that, an analysis of enemy concepts of operations is needed to identify those resources that would benefit him most. After that, one can justify priority candidates for denial. We need to know our enemy to identify and deny those resources that will benefit his offensive capability.

Airland Battle doctrine relies on deep interdiction to disrupt and weaken an enemy offensive and thereby reduce his ability and will to fight. At least initially, an attack may be hard to stop, and some land or bases and resources could be lost. According to AFM 1-1, "Even when an enemy has the initial advantage, an air commander must take all possible actions to retaliate and regain the offensive."(13:2-16) To that end, resource denial is part of retaliation. If interdiction is effective, the result will "...generate stresses and strains on the enemy by limiting his mobility, disrupting his scheme of operation, and depleting his resources."(13:2-14) He will have to forage either because of limited resupply capability or excessive consumption of organic resources caused by delay. Obviously, this could have important implications in the early stages of a war. To maximize the benefit of retaliation, however, we need to concentrate our denial effort on resources that will have the greatest impact on an enemy and give less attention to others.

Currently, one high priority resource for denial is aircraft operating surfaces. They are critical to our ability to fight and therefore are high priority targets for an enemy to destroy. But how necessary are our runways to the Soviets, for example, to sustain a "leap frog" across Europe? If their aircraft can operate from unimproved surfaces, highways, and even sod strips, do they really need to capture runways to launch aircraft against us? And if they did capture a runway, why would they move large numbers of aircraft there to expose them to the threat of a counteroffensive?

The purpose of this paper is to (1) establish the historical significance of resource denial for the Soviets, (2) describe and assess our current guidance and training programs for resource denial, (3) discuss Soviet doctrine and concepts of operation to identify some specific high value denial targets, and (4) suggest an organizational framework to approach the resource denial issue in a crisis situation with limited time and manpower.

Chapter Two

HISTORICAL SIGNIFICANCE

During World War II, the Russians learned the hard way about the importance of an effective resource denial process in fighting a war. They made some mistakes, not only in planning for the war, but in early execution of it. Among the principal reasons for nearly losing the war in the first month were a general lack of preparedness for the German invasion, and more specifically, a lack of experience and training.(8:132-133) Draft field regulations in 1939 indicated a disbelief in the effectiveness of blitzkrieg and almost complete reliance on the Red Army's offensive capability to repel an enemy attack. This was the case in 1941 when the Germans invaded. Little, if any, planning was accomplished in the event of retreat. When forced to, the Russians realized they had to use distance to their benefit. The combined effects of stretching German lines of communication, weather, demoralizing effects of stiff resistance, and lack of resources for German resupply contributed to turning the tide.

The Russians learned fast, however, both from experience and the Germans. In those cases where the Germans did temporarily fall back as early as 1941, they were "...practicing a scorched-earth policy, with incendiary teams burning down whole towns and villages before retreating...."(8:376) However, as the Russians tried the same, the result was ineffective. They left many of their resources--particularly food. General Heinz Guderian, a German, noted "...even when a grain silo was burning when we arrived, it was possible to rescue a portion of its contents."(5:190) The Russians had no other choice than to rely on partisans to disrupt the German lines of communication. In his July 3, 1941 broadcast, Stalin called for a vast partisan movement in the enemy rear to "...create intolerable conditions for the invaders, to disorganize their communications and transport."(8:711) In the process, the Russians added another twist to their quickly learned lesson of denial. When the supply situation was catastophic after entering Kiev, German Field Marshal von Leeb, the Supreme Commander of the Army Group North at Leningrad pointed out, "...hardly had we occupied the city than one tremendous explosion after another occurred...entire staffs were blown into the air..." along with shelter and other resources of potential value.(8:307-308)

After the German advance into the Caucasus in 1942 to capture desperately needed oil supplies, they found the Russians had destroyed the fields.(9:19) The Russians had learned to use resource denial to retaliate against the Germans.

Throughout the war, lack of consumable resources such as food, fuel, and ammunition played a critical role. Supply lines were stretched to the maximum and forced both Germans and Russians to treasure resources that could be captured from the enemy. Russians learned denial lessons the hard way.

Grounded in the histories of World War II and the great defensive battles of Stalingrad, Moscow, and Kursk, the Russians have recognized the need for defensive measures. In order to regroup, protect flanks, or buy time to consolidate force for an offensive in another sector, withdrawal may be required. (16:6-1) The Russians do not want to repeat their early World War II experience, and more importantly, they will want to take advantage of those who fail to recognize the importance of denial. Like many other tenets in their "religion of World War II," self supply with enemy resources is basic.

Chapter Three

CURRENT PROGRAM

The Engineering and Services community has recognized the importance of resource denial as part of war fighting. There is evidence of this in plans and regulations: a lesson in the Contingency Engineering Course at the Air Force Institute of Technology (AFIT); a lesson in a pilot course in the Department of Civil Engineering at the Air Force Academy; a training video produced at the Air Force Engineering and Services Center (AFESC); training packages produced at overseas bases; demolition training for Civil Engineers at Detachment 2 AFESC, Air Base Combat Training Support Complex, near Eglin AFB, Flordia (Field 4); and some USAFE guidance. The following description of each is certainly not comprehensive, but merely an effort to outline some of the existing guidance and programs to describe where we are today with respect to resource denial.

PLANS, REGULATIONS, AND OTHER GUIDANCE

Current plans and regulations identify the need for resource denial. First, USAF War and Mobilization Plan Vol. 1, HQ USAF/XOX Jun 86, Annex S, Appendix 4, Change 1, Apr 87, tasks Civil Engineering to "assist in base denial by any means available." Civil Engineering is also to provide "unexploded ordnance reporting assistance, and nonexplosive base denial assistance." CINCUSAFE OPLANS 4102 (S), Tab A to Appendix 3, Annex S, addresses base denial but was unavailable for this project. However, USAFE/DEM inspects Civil Engineering portions of base level plans using the checklists included as Appendices 1 and 2. USAFE/DEM strongly recommends distributing the checklists to base organizations in other commands. Second, AFR 93-3, Air Force Civil Engineering Prime Base Engineering Emergency Force (BEEF), Program 7, Nov 86, Para 3-2a(4)(c), says, "expedient destruction methods include nonexplosive base denial techniques with emphasis on denying base utilities and facilities to the enemy." Third, AFR 93-9, Civil Engineering REDHORSE Squadrons, 15 April 83, Para 5-4(d), emphasizes that base denial demolition techniques are part of the required training program and

include calculating explosive requirements, preparing a demolition plan, fabricating specialized charges, placing them, and detonating them safely. Finally, AFP 93-12 Vol 2, Post-Disaster Procedures (Draft for 2 years), Chapter 12, covers base denial. The focus is on nonexplosive denial methods and some Civil Engineering denial criteria. Also, on page 12-2 it states, "the theater commander will describe the policy and extent to which operations are carried out. Selected denial targets are integrated into the overall strategic and tactical concepts of the theater operations plan and are executed in accordance with war objectives."

None of the available documents say who is in charge of denial at the local level or emphasize the importance of the issue for all base units. Questions about how to develop structured and integrated denial plans remain unanswered. Is only Civil Engineering "assisting" in resource denial, and who is in charge?

TRAINING PROGRAMS

One lesson in the Contingency Engineering Course at AFIT focuses on resource denial. Students are instructed on the importance of denial planning, resource prioritization, and destruction methods.(19:1-21) Explosive techniques are a major part of the lesson. An underlying presumption, however, is the effort will impact the enemy by denying him critical resources. The following is an example:

Denial Priority	Type of Facility/Function
1	Runways, Taxiways, Flightline
2	Routes of Communication
3	Electrical Distribution Systems
4	Construction/Maintenance Equip.
5	Technical/Operational Facility
6	POL/Munition Storage
7	Vehicles & Unservicable Aircraft
8	Troop and Family Housing

Table 1. AFIT Recommended Denial Priorities (flying base) (19:10)

Although the lesson plan does not state it, these resources and respective priorities appear to be a reflection of their importance in our sortie generation process.

Based on that judgement, the presumption is they have similar utility for an enemy. Unfortunately, with this thinking, our denial efforts may miss the targets most useful to an enemy like the Soviets. This will be covered in Chapter 4.

The Department of Civil Engineering at the Air Force Academy has started a pilot course that covers some aspects of resource denial. The course entitled, "Engineering, the Fighting Air Base," for third year cadets, presents a simplified version of denial material from the AFIT lesson. Starting in FY 89, the course will become a permanent part of the curriculum.(27:--)

The Air Force Engineering and Services Center (AFESC) is involved in developing denial training programs. At present, they have produced a video tape that conceptually describes the need for denial and outlines some of the basic techniques. Copies of the tape are available thru audiovisual services to augment local base training efforts.(25:--)

At overseas bases, there is evidence that resource denial training for Civil Engineers is an ongoing effort. In USAFE, for example, the 819th CES (Red Horse) is responsible for training Civil Engineering team chiefs and munitions handlers in denial techniques. The 819th has published a Prime BEEF Base Denial-Demolition Training package dated 1 April 1987. The package covers material similar to the AFIT lesson and emphasizes explosive handling techniques.(18:--)

At Det 2, AFESC there is a "hands on" training opportunity for Civil Engineers in contingency operations. The program includes rapid runway repair, demolition training, fire protection, and chemical warfare and detection exercises. However, there is no training specifically in resource denial.(23:--) There may be reasons for this. One mentioned by an instructor is the danger that such training would potentially provide "an excuse to quit" in a recovery after attack situation.(23:--) The reasoning is that an option to leave may undermine dedication in a crisis. If workers know there is a viable plan to abandon the base, they may not put forth their best effort to delay, as long as possible, what they think is inevitable. On the other hand, there could be positive psychological aspects for workers in continuing to retaliate against an enemy as well as the demoralizing effect on him. Demonstrating the will "not to quit" may be a motivator. In either case, the psychological aspects of denial are beyond the scope of this project.

NO DOCTRINE OR POLICY

Perhaps the best reason for no "hands on" denial training at Det 2 AFESC is the lack of Air Force doctrine, policy, and

procedural guidance concerning resource denial. For years the Air Force has sporadically struggled with the issue, but failed to develop a starting point. Questions and comments by USAFE/DEMR make the point.

> What do we want from base denial? Base denial is something the operators and intelligence people don't like to think about. It is something the Logistics and Engineering communities must think about. Should there be degrees of base denial? Should we deny in such a way that if the tide of the war changes we will be able to quickly come back and reclaim what we have denied the enemy from using? Or should denial be total, with no chance of the enemy or us using any part of the flying and fighting system? Look at the Vietnam experience and wnere US warfighting systems left behind have resurfaced. Should the unhappy role [of denial] be placed on the Wing or Combat Support Group Commander? Or should it be dispersed among major base agencies such as Transportation, Fire Protection, Civil Engineering Operations, Communications, Supply, Security Police, Services, and Aircraft Maintenance? Who would assume this role on bases we operate from as part of NATO? Certainly our allies aren't likely to embrace and practice a system which destroys their real property and equipment. This goes for Main Operating Bases as well as Collocated Operating Bases.(22:--)

Clearly, these are important doctrinal questions that need answers. The question of organization and who should be in charge will be addressed in Chapter 5.

In short, resource denial is getting attention--particularly in the Engineering and Services community. The emphasis appears to be on nonexplosive and explosive techniques to destroy resources as tasked in AFR 93-3 and AFR 93-9. However, to bring the issue into focus, the rest of the Air Force needs to get involved. There is a need for doctrine and policy guidance at a level that demands attention from both operational and the support players mentioned above. Without it, action that is ongoing may have questionable value. Specifically, are current efforts directed at targets that will make a meaningful impact on Soviet war capability?

Chapter Four

IDENTIFYING DENIAL TARGETS

METHODOLOGY

In order to determine what resources would be most useful to the Soviets, it is essential to understand their military doctrine of "Deep Operations" and its historical basis. This is necessary because it has such strong influence in their approach to military technology, weapon system design, and ultimately how they intend to support their war effort. For resource denial purposes, the key is to expose vulnerabilities in their support system, analyze them, and determine what we can do to exploit them. We must insure Soviet logistic vulnerability is exploited by not relieving it when we leave resources behind. Likewise, we do not want to waste our denial efforts on noncritical resources. Analysis can expose vulnerability and ultimately produce "crucial targets" which are at the enemy's "center of gravity". The center of gravity as explained by Carl Von Clausewitz in On War is that upon which all depends. Effective resource denial must be directed against crucial targets.(2:595-596)

SOVIET MILITARY DOCTRINE

Russian history and an offensive revolutionary spirit shaped military doctrine as early as 1927 when V.K. Triandafillov described the concept of deep operations in his Basic Character of Operations of Modern Armies. His idea was that an enemy would be quickly defeated by rapid, concentrated, armored thrusts and coordinated air strikes penetrating deep in to his territory to destroy or capture reserves and destroy his defense.(10:1590) Triandafillov emphasized speed, surprise, and realistic planning and preparation as key elements in the Russian principals of warfare. They were essential to achieve a quick victory. (10:1592) The goal of the effort was to seize a favorable assault position for a new operation. Essentially, deep operations, as Triandafillov described them, were much the same

as the German blitzkrieg used successfully during World War II.(11:68-73)

Today, the Soviets still believe in the idea, but in practice it has evolved to the use of echelons and operational maneuver groups including mechanized airborne forces.(6:46) These exploitation groups would attempt to drive through gaps and weak sectors toward objectives deep in the NATO rear area to collapse defensive systems. Interdiction and retaliation using denial can disrupt the effort if properly focused and coordinated.

ERRONEOUS TARGET?

As shown in Table 1, runways are a top priority resource for denial and exemplify our offensive orientation in the training programs. But it may be wrong to always focus denial effort here. Dr. John Erickson, a world recognized expert on the Soviet military, explains why.

> FISHBED, FLOGGER, and FITTER aircraft can operate from auxiliary airfields and even from sod strips. There are specially prepared landing strips on most major freeways (Autobahnen) in East Germany and Poland that could be used for dispersal and recovery bases if main operating bases were knocked out of action.(4:187) The favorable range/payload characteristics of Soviet aircraft allow them to mount operations from widely dispersed bases in the USSR's western military districts and occupied areas of eastern Europe.(4:2)

NATO runways are unquestionably a Soviet target to keep us from launching aircraft against them. The point here is the availability, location, and security of makeshift runways for them to conduct air operations against us. Similar dispersed sections of freeway in western Europe could be used as forces move west. Depending on ground conditions and the particular aircraft, Dr. Erickson believes even these may be unnecessary.

In addition, the Soviets have perfected a method to rapidly repair or even construct airfields. After engineers and construction workers have tamped the earth, added gravel, and arranged drainage, large steel-reinforced concrete sections are lifted into place using cranes. Using this technique, an airfield for rugged aircraft can be repaired or built and ready for operation in a matter of days.(12:300)

Runway denial is time and location dependent. In certain situations, the benefit may be questionable. If so, what are the alternatives? For answers, consider the Soviet approach to technology, weapon system design, and support concepts.

WEAPON SYSTEM DESIGN

For the Soviets, technology and design are driven by operational considerations. The Soviets give great attention to technology and how it impacts equipment design. They like to copy from the West in areas where there is value to the application. But the overriding need is for economy. This has forced technological resourcefulness--not originality of thought, but cleverness. For example, faced with a technological problem, they generally do not expect to solve it by a technological development, but by more clever use of existing technology.(10:1590) The result is they tend to emphasize continuity of design and interoperability and deemphasize tailoring a weapons system to a particular requirement. This gives commanders greater flexibility. Further, equipment not only has to be designed with high mobility in mind to cover great distances quickly, but it can not be constrained by restrictive logistic supply lines. To operate this way, equipment must have a certain degree of independence for minimal service, resupply, and support.(3:34) These ideas are so important they are not only taught to young officers, but weapon systems designers and research staffs in academic institutions.(10:1589-1596) Technology and design are a means to employ their concept of operations.

For their operational concept to work, equipment must be designed with a high degree of reliability. There is historical basis for this. "During the offensive operations of 1944 and 1945, 30 percent of the battlefield tank casualities were the result of mechanical breakdowns."(10:1591) The Soviets could not accept this if they hoped to operate the way they wanted. They needed more reliable military equipment, and time proven designs were a way to do it. This also facilitated cannibalization of systems and subsystems, which has since been institutionalized in the Soviet maintenance procedure.(1:219) For example, "of the 3,544 parts that make up the ZIL-131 3 1/2-ton truck, 45 percent may be used on other ZIL-produced vehicles, and 23 percent may be used on other trucks of the same weight class."(17:13-1)

SOVIET MAINTENANCE PHILOSOPHY

Cannibalization plays an important role for equipment maintenance in mechanized combat where the major maintenance problem is keeping tracked and wheeled vehicles rolling. Overtasking of vehicles is normal during the offensive. For cross-country movement, vehicles may be overloaded by 75 percent and 100 percent for movement on hard-surface roads.(17:13-14)

This leads to rapid malfunction and breakdown and makes maintenance their single most complicated logistics activity.(1:218)

During World War II the Soviets found that it was impractical to replace equipment at the unit or subunit level. Instead, they determined that repaired equipment would be used to form new or composite subunits and fed into battle as reinforcements recreated at the operational level. Repair teams and workshops were constantly relocated forward during the operation and always deployed to the area of greatest casualities. At each level, the task was to repair the least damaged equipment first and return as much of it to the battlefield as quickly as possible. Cannibalization made this possible. What remained, was left for repair by shops in the rear areas. There was no pressure to design equipment that could have major overhaul in short periods, and this fit well with their support concepts. Mobile units could not carry sufficient major repair items anyway.(10:1589-1596) The Soviets still use these concepts.(17:13-17)

Today, three principals that guide Soviet maintenance activity are (1) repair at the lowest level possible, (2) on-site repair where possible, and (3) evacuation to centralized repair facilities only when necessary.(10:1589-1596) These principals mean that organizational maintenance in combat is performed by operator crews and their principal limitation is a shortage of tools, parts, and equipment. In fact, the only tools that driver-mechanics have are the basic hand items actually on the vehicles or in the vehicle inventory. Since there are no maintenance personnel or facilities in companies, it is essential for a soldier to be able to do several jobs.(1:218)

VULNERABILITY

Is it realistic to expect part-time mechanics, with limited tools, to be able to cannibalize in a combat environment to keep equipment operating at required levels? The US Army (USA) does not think so. In contrast, the USA forward support maintenance concept is implemented by committing a substantial amount of maintenance capability (mechanics, tools, and repair parts) to accomplish repair tasks in the main battle area on equipment where it breaks down or is damaged.(15:93) Although USA recognizes cannibalization as a source of spare parts, it should only be accomplished on the basis of firm guidelines the division commander has established, with decisions made by battalion maintenance officers who work with forward maintenance company supervisors and mechanics.(15:94) Control and limits are used to optimize USA inservice rates. The USA system works. On

the other hand, evidence from extended Soviet combat engagement exercises indicates their division maintenance units have had difficulty keeping up with repair requirements without backup support.(17:13-17) Clearly, there are differences in the two maintenance philosophies. The Soviet philosophy has skill, parts, and tool limitations.

DENIAL TARGETS

Soviet maintenance limitations can be exploited in the denial process. When their equipment fails, part-time mechanics who rely on cannibalization with limited tools will be hard-pressed to keep track and wheeled vehicles rolling. Tools and vehicle spare parts appear to be good denial targets.

In addition, a contact at the Army Command and General Staff College suggested targeting any mode of transport left behind, since the Soviets plan to mobilize their own civilian vehicles just to meet their needs. He also believed heavy equipment and fire fighting equipment were certainly good denial targets.(24:--) In keeping with Soviet operating philosophy, these are not the type of resources highly mobile units bring with them in the quantities needed. In Table 1, construction equipment and vehicles are priority 4 and 7 respectively.

CONSUMABLES

Petroleum, Oil, and Lubricants (POL)

Another part of the logistics issue is consumables that keep Soviet forces moving and fighting. Specifically, POL is a critical resource the Soviets may have difficulty supplying in sufficient quantity. It is the largest bulk item in the supply chain to keep vehicles running and aircraft flying.

> It is the liteblood supporting the mobility and maneuverability of combat forces on and over the battlefield. And despite having vast POL resources, at least in peacetime, there are indications that the military does not receive nearly as much POL as it would like. Although it is unlikely that Soviet commanders would rely entirely upon captured enemy POL stocks or requisitioned local POL stocks to support a military operation, it is well within traditional

> Soviet military practices and capabilities, however, to exploit any stocks to cover shortfalls, and it is well within the Soviet "self-supply" tradition for commanders to find their operational capability curtailed if supplemental stocks are not available. (1:213)

The Soviets have built up large helicopter forces to enhance mobility and maneuver and this puts more burden on their POL supplies. There are indications that by the nineties they will develop a main battle air vehicle and deploy a rotary-wing force that would not be too different from a light armored force. This effort could compound their POL supply problems even though helicopters can easily return to refueling points. Richard Simpken makes the point. "Over the spectrum of likely running and flying conditions, the fuel consumption of the kind of helicopter we are talking about is not too different from that of the M1 Abrams tank--admittedly a particularly thirsty monster."(6:122) Depending on the number of helicopters and available fuel supplies, the Soviets will be hard pressed to keep them all flying.

By necessity, the Soviet Army is equipped and organized to incorporate captured or requisitioned POL stocks into its military supply system. They have systems that can turn any bulk supply of POL into a filling station or can use it to fill other bulk carriers.(1:214) With POL denial we can compound their difficulty in doing this.

Relating back to the transport issue, POL distribution is another matter of concern for the Soviets. They plan to use direct delivery with fuel bladders on trucks to refuel both vehicles and aircraft. This will require an enormous number of trucks.(3:35) With tactical aircraft flying from unimproved fields and helicopters dispersed over the battlefield, the Soviets hope to be able to service a few aircraft at widely dispersed locations that change often instead of refueling a large number at relatively few locations.(1:214) Not only will overloaded vehicles making distribution probably experience more breakdowns shuttling among numerous locations, but what about the runway issue? Operating in this manner is not consistent with the Soviet need for a few NATO runways.

For denial, POL has two important ramifications: (1) lack of sufficient POL supply, and (2) manpower intensive distribution. We need to minimize bulk POL quantities left behind and equipment useful in distributing it. Pumps, hoses, fittings, containers and vehicles are certainly considerations. POL is potentially a critical Soviet vulnerability. We can exploit the situation by denying the resource and means of distribution. In Table 1, POL probably should be higher than priority 6.

Food

Food is another essential to keep Soviet forces moving and fighting. It is a critical resource that they may have difficulty supplying in sufficient quantity. The Soviet economy can not adequately feed its armed forces in peacetime.(1:204) As a consequence, most Soviet units must run part-time farming operations just to produce enough food to feed the troops while in garrison. It is worth considering what would happen in wartime, when troops would have to leave their auxiliary farms and mobilization would cut into already inadequate production by the civilian agricultural sector. "In a less serious vein, one can imagine the mighty Soviet war machine grinding across the Central European Plain, followed by great herds of cattle and clouds of chickens."(1:235)

Perhaps exaggerated, providing enough food for large numbers of troops in the field is a problem for the Soviets. It certainly means they will have to rely on self supply. In Afghanistan, for example, troops are supported at such a Spartan level that not only do they experience food shortages, but also such basics as clean underwear, bedsheets, and baths.(1:213) In trying to support small dispersed combat units in a protracted low-intensity conflict, the Soviets have had difficulty protecting their lines of communication.

For denial purposes, we need to destroy as much food as possible. Food in the commissary, clubs, and dining facilities could be a target. Although food is available on the economy, some impact is possible if base food supplies are destroyed.

The point of this maintenance, POL, and food analysis is to expose the vulnerability of the Soviet logistics tail, or in some cases, the lack of it. Logistics may be the Achille's heel of the Soviet military giant.(1:235) It has its roots in the basic weakness of the larger Soviet economy, and for a comprehensive war fighting strategy we must take advantage of it. Judgement and careful planning in terms of resource denial can help us do that.

The denial analysis process is also important because it demonstrates the need for multiple skills and disciplines involved in identifying priority targets. Operational, supply, transportation, and other combat support expertise is needed to develop an effective resource denial plan at base level. The process is like fighting a war in reverse, not only in the sense of strategic withdrawal, but thinking from the enemy offensive point of view. Certainly, with operational, planning, intelligence, and other support personnel analyzing appropriate material, we can better align our denial priorities to produce an effective plan.

Chapter Five

SUGGESTED ORGANIZATIONAL FRAMEWORK

Resource denial is part of war fighting. It is part of retaliation against an enemy when withdrawal is used to deceive or open new opportunities. To recover and regain the initiative is vital, but to do that, we need a combination of efforts to handle the situation. One way to do it is to integrate resource denial planning and execution requirements into multiskilled groups actually involved with fighting at the base or wing level. Because of unique missions, resources, and threat possibilities, it is only there that detailed denial planning and execution is feasible. To explain this at base level, here is a brief commentary on some aspects of an exercise called SALTY DEMO conducted at Spangdahlem AB, Germany, in 1985.

SALTY DEMO

This exercise was probably the most realistic ever conducted to evaluate base war fighting capability. One of the objectives was to see how well units work together to respond to wartime tasking while being stressed in a combat environment.(14:2) During the exercise, the Wing Operations Center (WOC) consisting of operations, maintenance, plans, intelligence, and numerous combat support personnel in the Survial Recovery Center (SRC) worked together to accomplish wartime taskings associated with generating sorties. They were also involved with defending the base and recovering after attack.(14:2) It was their unified effort in recognizing what was needed, prioritizing their efforts, and taking action that made this possible.(20:--)

Although the base was not abandoned as part of the exercise, the participants certainly recognized it as a possibility. At that point, each squadron would have been responsible for executing their planned denial process as a portion of the base effort. Having fought the exercise war together under the direction of the WOC, they would switch to deny their respective resources functionally or on a squadron basis.(28,21,20)

SHORTCOMINGS

Switching from a unified to a piecemeal effort for denial purposes can cause problems for a number of reasons. First, time is critical. All resources are in jeopardy, and obviously some are more valuable to an enemy than others. Those that benefit an enemy the most should be destroyed first. Second, in a crisis like this, there may not be enough manpower. Units responsible for denying critical resources may not have the manpower or expertise, due to casualties, to get their job done. Expertise in using explosive and nonexplosive denial techniques probably will be in short supply. There simply may be too many assets to destroy and not enough people to do it.

Identifying worthwhile denial targets requires a combination of expertise as described in Chapter 4. At times, it requires intelligence threat estimates, operational judgement, and logistical expertise to develop plans that accurately prioritize denial targets. It is rare to find this in every squadron. At best, the people developing the squadron plan will use the sources available and understand how the information fits together. At worst, the same people will consider only those resources in their functional area and attempt to prioritize all of them. Although the first situation may result in a viable plan for the squadron, neither address the issue for the wing nor the execution problems.

Unfortunately, interviews with several officers who have experience in both USAFE and PACAF and observed SALTY DEMO verify the above as widespread problems. At the wing or base level, the concept of fighting together changes when it comes to planning and executing resource denial.(28,21,20)

A BETTER WAY

To improve the situation, the Wing Commander needs to appoint a central OPR. A good choice would be Wing Plans. They can coordinate inputs from all units to develop a master plan, listing potential resources for denial. Relative priority can be established using threat estimates, analysis, and potentially some heated discussion among units. However, the result should be a single list of resources in the base denial annex to the war plan. The list needs to be divided into target groups with folders and detailed instructions and a map to the target area. Teams need to be assigned, trained, and tested in executing several target packages. Not only do they need a variety of skills, they also need to know their way around the base. Because of casualties, some degree of redundancy is essential to guarantee critical resources are destroyed. Ideally, wing team members would need no particular speciality code.

Groups like the WOC and SRC with broad expertise should review, practice, and refine these plans so they can direct denial actions if the need occurs. The Wing Commander can bring focus and structure to the issue from all organizations. He needs to make sure denial planning and execution is part of his war fighting effort and retaliation. Everyone contributes and works together for an offensive effort--why is strategic withdrawal different? Piecemeal effort by individual combat support functions in a time sensitive environment with reduced manning, will not get the job done.

OTHER IMPLICATIONS

The Air Base Operability Office, AD/YQ, along with USAFE planned and conducted SALTY DEMO. As a result of the exercise, AD/YQ has numerous ongoing projects to correct or improve survivability problems and deficiences noted during the exercise. However, resource denial is not part of this program.(28:--) Organizationally, there should be some connection. Although planning and execution for denial should be at the base level, the impact of withdrawing from a base is an operability issue of theater-wide proportions and relates directly to the success of the denial effort.

For example, depending on how resource survivability is improved, denial may be more difficult. Resources that are less susceptible to damage from enemy attack because of hardening, redundancy, or networking may be harder to disable or destroy. If the purpose of improving survivability is to enhance our war fighting capability, to a certain degree, it may do exactly the same for an enemy who captures a base. Nonetheless, as an operability project is selected and worked, there should be some consideration of the impact on denial. Air Base Operability Offices at MAJCOMS could be focal points to coordinate this effort.

In summary, because of the nature of resource denial and the combat environment where it may be required, planning and execution are critical. A broad base of operational and support expertise is needed to identify, prioritize, and direct destruction of critical resources before they are captured. The Wing Commander needs to be involved in the effort.

Chapter Six

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

Historically, resource denial has played an important role in war. For the Soviets, it is particularly significant based on their experiences in World War II. They emphasize the offensive, but understand the value of defensive techniques. For them, withdrawal and denying resources to an enemy is a form of retaliation to buy time and consolidate for a counteroffensive. Because of the way they intend to fight and support their forces, the Soviets have adapted technology and standardized equipment designed to minimize the impact of certain economic and logistic weaknesses inherent in the Soviet system. They count on "self supply" to make up the difference. It is important to deny them this opportunity in war.

Currently, there are plans, regulations, and training programs that deal with resource denial. Most are sketchy or incomplete. They lack guidance and emphasize denial techniques. There is no focus to what we want from denial, how targets should be identified, and who needs to be involved and in charge.

Unfortunately, when it comes to resource denial each functional unit on an overseas base is responsible for planning and executing their own program. This is unique. Prior to a withdrawal decision, all organizations worked together to accomplish wartime tasking. Lack of time and manpower can be critical factors in using this approach in a crisis situation. Further, without a comprehensive plan that prioritizes denial, some of the most crucial resources may be missed. And finally, most units do not have the operational or intelligence expertise to determine priority targets. Typically, they assume what is important for them to fight would be equally valuable to an enemy.

CONCLUSIONS

It is not clear that NATO bases will be able to implement an effective resource denial process against the Soviets, if required. Aside from some Engineering involvement in the issue, interest and activity are minimal. In calling it base denial the onus of the problem has defaulted to the Engineering and Services community, but currently it seems too deeply buried to fall in any camp. Whatever the term and status of the issue, policy guidance is lacking, and planning that does occur is fragmented. Most functional areas do not have expertise to identify, prioritize, and destroy resources that effectively exploit enemy weakness. In a crisis situation, with limited time and manpower, will the most critical resources be denied? Unfortunately, resource denial is not considered an integral part of war fighting and a form of retaliation against the enemy.

In war, Soviet logistics vulnerability in consumables such as POL and food as well as their maintenance concepts offer lucrative denial targets. Soviet emphasis on speed, mobility, and independence from restrictive support is part of this vulnerability. The rest is inherent weakness in their economic and distribution systems.

RECOMMENDATIONS

Consider resource denial as a continuation of war fighting and a form of retaliation. Realistically, it is part of a comprehensive strategy.

Specific recommendations follow:

(1) Develop doctrine, policy, and better guidance to cover denial planning and execution. Outline the doctrine in USAF War and Mobilization Plan. Although AFR 93-3, AFR 93-9, and AFP 93-12 Vol 2 address the issue, guidance and applicability are minimal. AFR 355-1, Disaster Preparedness Planning and Operations, Chapter 12, Wartime Operations, does not cover the subject at all.

(2) Adopt an organizational, rather than functional approach to planning and executing resource denial at the base or wing level. All base agencies need representation with the Wing Commander directing the planning and execution. Identifying and prioritizing base resources requires operational, intelligence, and other combat support functional expertise. Lack of time and manpower for denial require that everyone work together.

(3) Train more personnel in basic denial practices. Explosive techniques are important, but nonexplosive measures can be effective.

The resource denial issue requires a broad spectrum of functional expertise that is coordinated and focused on exploiting enemy logistic vulnerability. For planning purposes, each functional area can provide only a portion of what is needed to develop an effective base plan. Further, in executing it, time limitations and manpower constraints likely will require universal training and multiple skills under the direction of a single commander. Contingency training skills like the lesson in the AFIT course, AFESC Det 2, and at the Air Force Academy could be more fully developed to serve as models for what needs to be taught to the base population. The Engineering and Services community has and can make a significant contibution, but for viable planning and execution, resource denial requires a broad spectrum of expertise.

The Air Force must recognize the importance of resource denial. It is a form of retaliation, and to make it effective we need an organization with the capability to plan in peacetime what we may have to execute in war.

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APPENDICES

ALL PURPOSE CHECKLIST	PAGE 1 OF 2 PAGES

TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA	OPR	DATE
Base Denial Guideline # 1 General		

NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	Yes	No	N/A

1. Mission statement. Base denial involves the destruction or deactivation of essential assets, facilities and utilities to deny their use to an enemy after a base has been abandoned by friendly forces.

2. Introduction. This guideline provides a subjective view of actions to be considered in the development of base denial plans. This criteria is general guidance only. Deviations to allow flexibility in the development of an effective plan is authorized.

a. ARE all base units with assets of potential enemy value been tasked in the base denial annex to the 4102 plan to develop individual denial plans? Are these units listed in the 4102 plan as well as their targets and priorities?

b. Is a central OPR (to be detemined by the Wing Commander) been appointed to coordinate the development of all plans and their integration in a master base denial plan?

c. Are target folders made in four copies, each with detailed instructions and a map of the target area? One copy for each team, one for the team OIC, and one copy in both the primary and alternate command posts.

d. Is predispersal of equipment and the procurement of supplies to carry out base denial been addressed in the Emergency Action File (EAF)? If the plans call for the delivery of fuel to burn assets, then consider getting it delivered ahead of time. Likewise, the survivability of munitions in the munitions area should also be addressed, and predispersal considered.

e. Has coordination between all units carrying out denial actions been addressed? A common radio net would be useful.

f. Time phasing of denial actions is critical. Not all denial actions can be effectively carried on at one time. A time PERT chart showing all denial actions would be a good idea.

ALL PURPOSE CHECKLIST	PAGE 2 OF 2 PAGES
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA Base Denial Guideline # 1 General	OPR / DATE

NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	Yes	No	N/A

g. Security classification of organizational denial plans should be determined locally.

h. Is the base fire department kept abreast of plans to relocate munitions and deliver fuels so they can develop an effective fire fighting plan? They should be afforded the opportunity to coordinate on denial plans.

i. Is base denial training adequate? Have base denial team members been pre-identified on crews and have they practiced carrying out the denial plan?

j. Have all targets been identified?

ALL PURPOSE CHECKLIST	PAGE 1	OF 2	PAGE
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA Base Denial Guideline # 2 Civil Engineering: Italy & FRG	OPR	DATE	

NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	Yes	No	N/A

1. Mission Statement. Base denial involves the destruction or deactivation of essential assets, facilities, and utilities to deny their use to an enemy after a base has been abandoned by friendly forces.

2. Introduction. This guideline provides a subjective view of actions to be considered in the development of base denial plans. This criteria is general guidance only. Deviations to allow flexibility in the development of an effective plan is authorized.

a. ARE munitions requirements for explosive base denial actions determined locally? Munitions supply points can be established with base munitions supply. Two munitions supply points are required:

1. One for denial assets.

2. One for training. The training supply point should include munitions for live range training, as well as inert fuse, inert detonation cord, and inert blasting caps for classroom training.

b. ARE team munitions requirements kept in even units of issue, e.g., team #1 needs 20' of fuse; the standard unit of issue is a 50' roll? Time may not permit the breaking down of the roll. Issue the team the whole roll. It is inexpensive.

c. Munitions compatability. The 40-pound shaped charge will make a 10" hole about 5' deep in a concrete runway. A 40-pound cratering charge is about 16" in diameter, it will not fit in the hole left by a shaped charge. Does your plan call for a cratering charge to be put into a hole left by a shaped charge?

d. Is predispersal of munitions, equipment and supplies addressed in the Emergency Action File (EAF)? Will your munitions survive in the munitions area after several attacks? Some good predispersal locations are lockable substations, runway barrier pits, and aircraft shelters. Disperse only what is needed for that area. Do not include blasting caps or detonators with the dispersed munitions.

e. Base denial (Nonelectric) tool kits. Does each team member have at least one pair of blasting cap crimpers? Other items needed are blasting cap boxes, knives, flashlights, batteries, electrical tape, and wooden dowels to unroll the detonation cord. Note: The tape and batteries should be rotated to keep them fresh.

ALL PURPOSE CHECKLIST	PAGE 2 OF 2 PAGES
TITLE/SUBJECT/ACTIVITY/FUNCTIONAL AREA Base denial guideline # 2 Civil Engineering: Italy & FRG	OPR / DATE

NO.	ITEM (Assign a paragraph number to each item. Draw a horizontal line between each major paragraph.)	Yes	No	N/A

f. DO target plan calling for explosive denial actions have a backup, nonexplosive destruction plan?

g. Hardened Aircraft Shelters (HAS) are almost impossible to destroy in a limited time. A 40-pound cratering charge in the corner of the door by the switch gear and several blocks of C-4 on the door rollers should temporarily deny the shelter. The OPRs for shelter POL and ITC equipment are responsible for their destruction.

h. Training for Civil Engineering Team.

1. Have team chiefs and munitions handlers completed initial base denial training, conducted by the 819CES/HR, before assignment to the team?

2. DO team chiefs and munitions handlers receive yearly refresher classes thereafter?

3. Are other team members being trained?

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